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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: Gerald Heston, OSC
Western Response Section (3HW32)

FROM: Robert McGlade, TAT Region III (HJ) TDD#: 9410-154
PCS#: 1154

SUBJECT: Boarhead Farms NPL Site Trip Report

DATE: November 18, 1994

BACKGROUND

The Boarhead Farms Site is a partially wooded lot of approximately 113 acres located on Lonely Cottage Road in Upper Black Eddy, Bridgeton Township, Bucks County, PA. Roughly one-third of this 113-acres is low-lying wetlands with the surrounding area being somewhat hilly. A farmhouse, stables, and the former office of the Boarhead Corporation are located on the upland portion of the Site in a cleared area encompassing about one-fourth of the 113-acres. Two ponds are located in the central portion of the property, with the larger covering approximately 4 acres and the smaller approximately 3/4 of an acre. The topography of the Site slopes down and away from the ponds towards a swampy area located in the southeastern portion of the property. The Site has a history since the early 1970s of uncontrolled releases documented by the Pennsylvania Department of Environmental Resources (PADER) and the Bucks County Department of Health (BCDOH). On February 20, 1973 the BCDOH filed a Waste Discharge Inspection Report documenting drum burial operations being conducted on the Site. In March of 1976, the owner of the Site was found guilty of nine separate violations of the Pennsylvania Clean Streams Law. In September of 1976, 34 persons were evacuated from the surrounding area because of a sulfuric acid cloud resulting from a leaking tanker parked on the Boarhead property.

AR305337

Roy F. Weston, Inc.

MAJOR PROGRAMS DIVISION

In Association with Foster Wheeler USA Corporation, Resource Applications, Inc., C.C. Johnson & Malhotra, P.C., R.E. Sarriera Associates, and GRB Environmental Services, Inc.

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As a result of the identification of 28 magnetic anomalies on-site and the strong suspicion that buried drums were present, the U.S. EPA Remedial Branch Project Manager requested the assistance of the Removal Branch in investigating these magnetic anomalies.

On February 24, 1992 U.S. EPA Region III Administrator Edwin B. Erickson approved CERCLA funds to begin Removal efforts at the Site. After an extensive magnetometer survey, the excavation of identified anomalies began. Approximately 2,500 drums and 6,600 cubic yards of soil were excavated and transported off-site for disposal between June 18, 1992, and September 17, 1993.

The U.S. EPA Remedial Branch conducted an ecological assessment on-site between July 1992 and June 1993. Remedial contractors collected soil, sediment, surface water, and residential well samples, and conducted wetland impact studies. To date, the ecological assessment has indicated that on-site contamination is isolated to areas of drum burial. Based on local residential well analyses, there is no indication that local residential drinking water has been affected by the Site.

In August and September of 1993, the U.S. EPA Remedial Branch drilled twenty-three groundwater monitoring wells on- and off-site. Field monitoring instruments indicated that two of these wells, located in the central portion of the Site, may have been contaminated. The U.S. EPA Remedial Branch requested the assistance of the Removal Branch in sampling these wells for quick analytical turnaround. On September 10, 1993, OSC Matlock and the Region III Technical Assistance Team (TAT) sampled six wells on- and off-site. Two of these wells were the on-site wells suspected to be contaminated and four of these wells were randomly chosen wells on- and off-site.

The results of the September 10 sampling event indicated that significant groundwater contamination existed on-site. These analytical results prompted the U.S. EPA to begin an Engineering Evaluation/Cost Analysis (EE/CA) for groundwater treatment at the Boarhead Farms Site to prevent the migration of this contamination into local residential wells. At the direction of the U.S. EPA, TAT subcontracted B.L. Meyers Brothers, Inc. to drill 15 monitoring/extraction wells on-site to depths up to 150 feet.

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Upon completion of the drilling of these wells, the United States Department of the Interior, Geological Survey (USGS) conducted geophysical, camera, and pump testing of these wells to identify the subsurface geophysical characteristics of the Site. During the USGS pump testing operations, TAT collected two water samples for volatile organic compound analysis from each well, one at the commencement of the pump test and one at the completion of the pump test. In addition, one sample was collected from the holding tank containing the USGS pump test water from all of the extraction wells and was analyzed for Volatile Organic Compounds, Pesticide/PCB, Base/Neutral/Acid (Semi-Volatile Organic Compounds), Total Metals, and Cyanide.

ACTIONS TAKEN

The USGS targeted seven of the best producing extraction wells on the Site for 4 or 8 hour pump tests. These wells were EW-2, EW-6, EW-8, EW-9, EW-10, EW-11, and EW-13. During these pump tests, TAT collected water samples for VOC analysis approximately 30 minutes after commencement of the pump test (to allow for purging of stagnant water) and approximately 30 minutes prior to completion of the pump test at each well. These samples were numbered as EW-##A and EW-##B, respectively.

EW-2 was pumped on 27 October, 1994 and was sampled at 1150 (EW-2A) and 1448 (EW-2B). The pump rate averaged an estimated 1.00 GPM, and an estimated total of 178 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-2A and EW-2B for those compounds detected is as follows: 1,2-Dichloroethene (total) increased 26%, 1,1,1-Trichloroethane increased 41%, and Trichloroethene increased 22%. Benzene was not detected in EW-2A, but was detected in EW-2B at an estimated concentration of 28 ug/L.

EW-6 was pumped on 26 October, 1994 and was sampled at 0940 (EW-6A) and 1615 (EW-6B). The pump rate averaged 6.00 GPM, and an estimated total of 2,370 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-6A and EW-6B for those compounds detected is as follows: 1,1-Dichloroethene increased 45%, 1,1-Dichloroethane increased 27%, 1,2-Dichloroethene (total) increased 24%, 1,1,1-Trichloroethane increased 42%, Trichloroethene increased 35%, Benzene increased 39%, and Tetrachloroethene increased 48%.

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EW-8 was pumped on 24 October, 1994 and was sampled at 0940 (EW-8A) and 1500 (EW-8B). The pump rate averaged 9.03 GPM, and an estimated total of 2,889 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-8A and EW-8B for those compounds detected is as follows: 1,1-Dichloroethane changed $\leq 10\%$, 1,2-Dichloroethene (total) changed $\leq 10\%$, 1,1,1-Trichloroethane decreased 11%, Trichloroethene changed $\leq 10\%$, and Tetrachloroethene changed $\leq 10\%$.

EW-9 was pumped on 19 October, 1994 and was sampled at 1000 (EW-9A) and 1048 (EW-9B). The pump rate averaged 2.07 GPM, and an estimated total of 99 gallons were pumped from the well between the two samples. This well was pumped dry at approximately 1045, and therefore the pump test could not be completed. The deviation of analytical results between EW-9A and EW-9B for those compounds detected is as follows: 1,1-Dichloroethane decreased 21%, 1,2-Dichloroethene (total) changed $\leq 10\%$, 1,1,1-Trichloroethane increased 18%, Trichloroethene changed $\leq 10\%$, and Tetrachloroethene changed $\leq 10\%$.

EW-10 was pumped on 18 October, 1994 and was sampled at 0920 (EW-10A) and 1200 (EW-10B). The pump rate averaged 3.25 gallons per minute (GPM), and an estimated total of 520 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-10A and EW-10B for those compounds detected (1,1-Dichloroethane, 1,2-Dichloroethene total, 1,1,1-Trichloroethane, Trichloroethene, and tetrachloroethene) is 10% or less.

EW-11 was pumped on 28 October, 1994 and was sampled at 0900 (EW-11A) and 1100 (EW-11B). The pump rate averaged an estimated 1.00 GPM, and an estimated total of 120 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-11A and EW-11B for those compounds detected is as follows: 1,1-Dichloroethene increased 50%, 1,1-Dichloroethane decreased 56%, 1,2-Dichloroethene (total) decreased 30%, 1,1,1-Trichloroethane increased 77%, Trichloroethene increased 11%, 1,2-Trichloroethane decreased 19%, and Tetrachloroethene changed $\leq 10\%$.

EW-13 was pumped on 20 October, 1994 and was sampled at 0955 (EW-13A) and 1230 (EW-13B). The pump rate averaged an estimated 2.50 GPM, and an estimated total of 387 gallons were pumped from the well between the two samples. The deviation of analytical results between EW-13A and EW-13B for those compounds detected is as follows: 1,1-Dichloroethene increased 200%, 1,1-Dichloroethane increased 19%, 1,2-Dichloroethene (total) changed $\leq 10\%$, 1,1,1-Trichloroethane increased 114%, Trichloroethene increased 83%, and Toluene changed $\leq 10\%$.

AR305340

FUTURE PLANS

The information contained in this report and its attachment may be used as an aid in the selection of a remediation option for the groundwater contamination at the Site.

Upon receipt of analytical results from the laboratory for the holding tank sample, an analytical review and summary of that sample's analysis will be completed by TAT.

Attachments:

- Table 1
- Extraction Well Analytical Data Summary
- Extraction Well Data Review Report

TABLE 1.

The following table lists analytical results for those compounds which exceeded either the Removal Action Level (RAL) or the Maximum Contaminant Level (MCL) and the respective samples.

SAMPLE NUMBER	COMPOUNDS EXCEEDING THE MCL	COMPOUNDS EXCEEDING THE RAL
EW-2A	1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-2B	1,1,1-TRICHLOROETHANE BENZENE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-6A	1,1-DICHLOROETHENE 1,1,1-TRICHLOROETHANE BENZENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-6B	1,1-DICHLOROETHENE 1,1,1-TRICHLOROETHANE 1,2-DICHLOROETHENE BENZENE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-8A	1,1,1-TRICHLOROETHANE 1,2-DICHLOROETHENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	1,2-DICHLOROETHENE TRICHLOROETHYLENE
EW-8B	1,1,1-TRICHLOROETHANE 1,2-DICHLOROETHENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	1,2-DICHLOROETHENE TRICHLOROETHYLENE
EW-9A	1,2-DICHLOROETHENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-9B	1,2-DICHLOROETHENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-10A	TETRACHLOROETHYLENE TRICHLOROETHYLENE	
EW-10B	TETRACHLOROETHYLENE TRICHLOROETHYLENE	

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EW-11B	1,1-DICHLOROETHENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,2-DICHLOROETHENE TETRACHLOROETHYLENE TRICHLOROETHYLENE	1,1-DICHLOROETHENE 1,1,2-TRICHLOROETHANE TETRACHLOROETHYLENE TRICHLOROETHYLENE
EW-13A	1,1-DICHLOROETHENE 1,1,1-TRICHLOROETHANE TRICHLOROETHYLENE	TRICHLOROETHYLENE
EW-13B	1,1-DICHLOROETHENE TRICHLOROETHYLENE 1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHENE TRICHLOROETHYLENE

The following lists the MCL and RAL for each of the above compounds:

<u>COMPOUND</u>	<u>MCL (ug/L)</u>	<u>RAL (ug/L)</u>
1,1,1-Trichloroethane	200	1,000
1,1,2-Trichloroethane	5	30
Benzene	5	100
1,1-Dichloroethene	7	70
1,2-Dichloroethene (cis-)*	70	400
Tetrachloroethylene	5	70
Trichloroethylene	5	300

* 1,2-Dichloroethene is reported as "total" in the analytical report (both cis- and trans- isomers). The RAL and MCL for the cis- isomer of this compound is listed here, since these are the most conservative values.

AR305343

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 020

Lab Name: <u>EMSL ANALYTICAL</u>	Contract: _____	9429345V EW-2A
Project No.: _____	Site: _____ Location: _____	
Matrix: (soil/water) <u>WATER</u>	Lab Sample ID: <u>9429345V</u>	
Sample wt/vol: <u>0.500</u> (g/mL) <u>ML</u>	Lab File ID: <u>C4261.D</u>	
Level: (low/med) <u>LOW</u>	Date Received: <u>10/31/94</u>	
% Moisture: not dec. <u>NA</u>	Date Analyzed: <u>11/1/94</u>	
GC Column: <u>DB-624 X 75M</u> ID: <u>0.53</u> (mm)	Dilution Factor: <u>1.0</u>	
Soil Extract Volume: _____ (uL)	Soil Aliquot Volume: _____ (uL)	

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	48	JB
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	50	U
75-35-4	1,1-Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	33	J
540-59-0	1,2-Dichloroethene (total)	39	J
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	240	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	1800	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	50	U
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

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AR305344

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9429345V

ED-2A

021

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429345V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4261.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

022

Lab Name: EMSL ANALYTICAL

Contract: _____

9429346V

EW-23

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water)

WATER

Lab Sample ID: 9429346V

Sample wt/vol:

0.500

(g/mL)

ML

Lab File ID: C4262.D

Level: (low/med)

LOW

Date Received: 10/31/94

% Moisture: not dec.

NA

Date Analyzed: 11/2/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____

(uL)

Soil Aliquot Volume: _____

(uL)

Concentration Units:

CAS No.

Compound

(ug/L or ug/Kg)

ug/L

Q

74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	50	JB
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	50	U
75-35-4	1,1-Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	50	U
540-59-0	1,2-Dichloroethene (total)	53	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	340	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	2200	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	50	U
71-43-2	Benzene	28	J
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

3/90

AR305346

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9429346V

EU-2B

023

Lab Name: EMSL ANALYTICAL Contract: _____
 Project No. _____ Site: _____ Location: _____ Group: _____
 Matrix: (soil/water) WATER Lab Sample ID: 9429346V
 Sample wt/vol: 0.500 (g/mL) ML Lab File ID: C4262.D
 Level: (low/med) LOW Date Received: 10/31/94
 % Moisture: not dec. NA Date Analyzed: 11/2/94
 GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0 (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 028

9429349V

EW-6A

Lab Name: EMSL ANALYTICAL

Contract:

Project No.:

Site:

Location:

Group:

Matrix: (soil/water) WATER

Lab Sample ID: 9429349V

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: C4279.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	50		U
74-83-9	Bromomethane	50		U
75-01-4	Vinyl chloride	50		U
75-00-3	Chloroethane	50		U
75-09-2	Methylene chloride	34		
67-64-1	Acetone	50		U
75-15-0	Carbon disulfide	25		U
75-35-4	1,1-Dichloroethene	24		J
75-34-3	1,1-Dichloroethane	18		J
540-59-0	1,2-Dichloroethene (total)	57		
67-66-3	Chloroform	25		U
107-06-2	1,2-Dichloroethane	25		U
78-93-3	2-Butanone	50		U
71-55-6	1,1,1-Trichloroethane	210		
56-23-5	Carbon tetrachloride	25		U
75-27-4	Bromodichloromethane	25		U
78-87-5	1,2-Dichloropropane	25		U
10061-01-5	cis-1,3-Dichloropropene	25		U
79-01-6	Trichloroethene	370		
124-48-1	Dibromochloromethane	25		U
79-00-5	1,1,2-Trichloroethane	25		U
71-43-2	Benzene	28		
10061-02-6	trans-1,3-Dichloropropene	25		U
75-25-2	Bromoform	25		U
108-10-1	4-Methyl-2-pentanone	50		U
591-78-6	2-Hexanone	50		U
127-18-4	Tetrachloroethene	41		
79-34-5	1,1,2,2-Tetrachloroethane	25		U
108-88-3	Toluene	25		U
108-90-7	Chlorobenzene	25		U
100-41-4	Ethylbenzene	25		U
100-42-5	Styrene	25		U
1330-20-7	Xylene (total)	25		U

FORM I VOA

3/90

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12
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

029

9429349V
EW-6A

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429349V

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: C4279.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

Concentration Units:

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

030

Lab Name: EMSL ANALYTICAL

Contract: _____

9429350V

EW-6B

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429350V

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: C4280.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane	50		U
74-83-9	Bromomethane	50		U
75-01-4	Vinyl chloride	50		U
75-00-3	Chloroethane	50		U
75-09-2	Methylene chloride	31		
67-64-1	Acetone	50		U
75-15-0	Carbon disulfide	25		U
75-35-4	1,1-Dichloroethene	35		
75-34-3	1,1-Dichloroethane	23		J
540-59-0	1,2-Dichloroethene (total)	71		
67-66-3	Chloroform	25		U
107-06-2	1,2-Dichloroethane	25		U
78-93-3	2-Butanone	50		U
71-55-6	1,1,1-Trichloroethane	300		
56-23-5	Carbon tetrachloride	25		U
75-27-4	Bromodichloromethane	25		U
78-87-5	1,2-Dichloropropane	25		U
10061-01-5	cis-1,3-Dichloropropene	25		U
79-01-6	Trichloroethene	500		
124-48-1	Dibromochloromethane	25		U
79-00-5	1,1,2-Trichloroethane	25		U
71-43-2	Benzene	39		
10061-02-6	trans-1,3-Dichloropropene	25		U
75-25-2	Bromoform	25		U
108-10-1	4-Methyl-2-pentanone	50		U
591-78-6	2-Hexanone	50		U
127-18-4	Tetrachloroethene	61		
79-34-5	1,1,2,2-Tetrachloroethane	25		U
108-88-3	Toluene	25		U
108-90-7	Chlorobenzene	25		U
100-41-4	Ethylbenzene	25		U
100-42-5	Styrene	25		U
1330-20-7	Xylene (total)	25		U

FORM I VOA

3/90

AR305350

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

031

9429350V
EW-6B

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429350V

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: C4280.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

016

Lab Name: EMSL ANALYTICAL

Contract: _____

9429133V

EW-5A

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429133V

Sample wt/vol: 0.250 (g/mL) ML

Lab File ID: C4271.D

Level: (low/med) LOW

Date Received: 10/25/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	200		U
74-83-9	Bromomethane	200		U
75-01-4	Vinyl chloride	200		U
75-00-3	Chloroethane	200		U
75-09-2	Methylene chloride	100		U
67-64-1	Acetone	200		U
75-15-0	Carbon disulfide	100		U
75-35-4	1,1-Dichloroethene	100		U
75-34-3	1,1-Dichloroethane	55		J
540-59-0	1,2-Dichloroethene (total)	540		
67-66-3	Chloroform	100		U
107-06-2	1,2-Dichloroethane	100		U
78-93-3	2-Butanone	200		U
71-55-6	1,1,1-Trichloroethane	350		
56-23-5	Carbon tetrachloride	100		U
75-27-4	Bromodichloromethane	100		U
78-87-5	1,2-Dichloropropane	100		U
10061-01-5	cis-1,3-Dichloropropene	100		U
79-01-6	Trichloroethene	3200		
124-48-1	Dibromochloromethane	100		U
79-00-5	1,1,2-Trichloroethane	100		U
71-43-2	Benzene	100		U
10061-02-6	trans-1,3-Dichloropropene	100		U
75-25-2	Bromoform	100		U
108-10-1	4-Methyl-2-pentanone	200		U
591-78-6	2-Hexanone	200		U
127-18-4	Tetrachloroethene	46		J
79-34-5	1,1,2,2-Tetrachloroethane	100		U
108-88-3	Toluene	100		U
108-90-7	Chlorobenzene	100		U
100-41-4	Ethylbenzene	100		U
100-42-5	Styrene	100		U
1330-20-7	Xylene (total)	100		U

FORM I VOA

3/90

AR305352

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

017

9429133V

EW-87

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429133V

Sample wt/vol: 0.250 (g/mL) ML

Lab File ID: C4271.D

Level: (low/med) LOW

Date Received: 10/25/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 018

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9429134V

Sample wt/vol: 0.250 (g/mL) ML Lab File ID: C4274.D

Level: (low/med) LOW Date Received: 10/25/94

% Moisture: not dec. NA Date Analyzed: 11/3/94

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	200	U
74-83-9	Bromomethane	200	U
75-01-4	Vinyl chloride	200	U
75-00-3	Chloroethane	200	U
75-09-2	Methylene chloride	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon disulfide	100	U
75-35-4	1,1-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	56	J
540-59-0	1,2-Dichloroethene (total)	550	
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	200	U
71-55-6	1,1,1-Trichloroethane	310	
56-23-5	Carbon tetrachloride	100	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	3200	
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-pentanone	200	U
591-78-6	2-Hexanone	200	U
127-18-4	Tetrachloroethene	42	J
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	100	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Xylene (total)	100	U

FORM I VOA

3/90

AR305354

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

019

9429134V

Env-83

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429134V

Sample wt/vol: 0.250 (g/mL) ML

Lab File ID: C4274.D

Level: (low/med) LOW

Date Received: 10/25/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

003

9428402V
ECC 9/4

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428402V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4255.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO. 003

Lab Name: EMSL ANALYTICAL Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix: (soil/water) WATER Lab Sample ID: 9428402V

Sample wt. vol: 0.500 (g/mL) ML Lab File ID: C4255.D

Level: (low/med) LOW Date Received: 10/20/94

% Moisture: not dec. NA Date Analyzed: 11/1/94

GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	100		U
74-83-9	Bromomethane	100		U
75-01-4	Vinyl chloride	100		U
75-00-3	Chloroethane	100		U
75-09-2	Methylene chloride	45		JB
67-64-1	Acetone	100		U
75-15-0	Carbon disulfide	50		U
75-35-4	1,1-Dichloroethene	50		U
75-34-3	1,1-Dichloroethane	46		J
540-59-0	1,2-Dichloroethene (total)	230		
67-66-3	Chloroform	50		U
107-06-2	1,2-Dichloroethane	50		U
78-93-3	2-Butanone	100		U
71-55-6	1,1,1-Trichloroethane	160		
56-23-5	Carbon tetrachloride	50		U
75-27-4	Bromodichloromethane	50		U
78-87-5	1,2-Dichloropropane	50		U
10061-01-5	cis-1,3-Dichloropropene	50		U
79-01-6	Trichloroethene	2000		
124-48-1	Dibromochloromethane	50		U
79-00-5	1,1,2-Trichloroethane	50		U
71-43-2	Benzene	50		U
10061-02-6	trans-1,3-Dichloropropene	50		U
75-25-2	Bromoform	50		U
108-10-1	4-Methyl-2-pentanone	100		U
591-78-6	2-Hexanone	100		U
127-18-4	Tetrachloroethene	25		J
79-34-5	1,1,2,2-Tetrachloroethane	50		U
108-88-3	Toluene	50		U
108-90-7	Chlorobenzene	50		U
100-41-4	Ethylbenzene	50		U
100-42-5	Styrene	50		U
1330-20-7	Xylene (total)	50		U

FORM I VOA

3/90

AR305357

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9428403V

ELC-68

011

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428403V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4256.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

010

9428403V

EW-93

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428403V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4256.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	46	JB
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	50	U
75-35-4	1,1-Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	36	J
540-59-0	1,2-Dichloroethene (total)	240	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	190	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	1900	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	50	U
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	23	J
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

3/90

AR305359

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

004

9428400V

EW-104

Lab Name: EMSL ANALYTICAL

Contract:

Project No.:

Site:

Location:

Group:

Matrix: (soil/water)

WATER

Lab Sample ID: 9428400V

Sample wt/vol:

5

(g/mL)

ML

Lab File ID: C4251.D

Level: (low/med)

LOW

Date Received: 10/20/94

% Moisture: not dec.

NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:

(uL)

Soil Aliquot Volume:

(uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	6		B
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	5		U
75-35-4	1,1-Dichloroethene	4		J
75-34-3	1,1-Dichloroethane	99		
540-59-0	1,2-Dichloroethene (total)	52		
67-66-3	Chloroform	5		U
107-06-2	1,2-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	26		
56-23-5	Carbon tetrachloride	5		U
75-27-4	Bromodichloromethane	5		U
78-87-5	1,2-Dichloropropane	5		U
10061-01-5	cis-1,3-Dichloropropene	5		U
79-01-6	Trichloroethene	36		
124-48-1	Dibromochloromethane	5		U
79-00-5	1,1,2-Trichloroethane	5		U
71-43-2	Benzene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
75-25-2	Bromoform	5		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	7		
79-34-5	1,1,2,2-Tetrachloroethane	5		U
108-88-3	Toluene	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
100-42-5	Styrene	5		U
1330-20-7	Xylene (total)	5		U

FORM I VOA

3/90

AR305360

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO

005

9428400V
EW - 104

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428400V

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C4251.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
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8.				
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30.				

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

007

9428401V

EW-108

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428401V

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: C4254.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

000

9428401V

Ew-103

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428401V

Sample wt/vol: 5 (g/mL) ML

Lab File ID: C4254.D

Level: (low/med) LOW

Date Received: 10/20/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	6		B
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	5		U
75-35-4	1,1-Dichloroethene	3		J
75-34-3	1,1-Dichloroethane	92		
540-59-0	1,2-Dichloroethene (total)	51		
67-66-3	Chloroform	5		U
107-06-2	1,2-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	28		
56-23-5	Carbon tetrachloride	5		U
75-27-4	Bromodichloromethane	5		U
78-87-5	1,2-Dichloropropane	5		U
10061-01-5	cis-1,3-Dichloropropene	5		U
79-01-6	Trichloroethene	39		
124-48-1	Dibromochloromethane	5		U
79-00-5	1,1,2-Trichloroethane	5		U
71-43-2	Benzene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
75-25-2	Bromoform	5		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	7		
79-34-5	1,1,2,2-Tetrachloroethane	5		U
108-88-3	Toluene	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
100-42-5	Styrene	5		U
1330-20-7	Xylene (total)	5		U

FORM I VOA

3/90

AR305363

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

024

Lab Name: EMSL ANALYTICAL

Contract: _____

9429347V

EW-11A

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429347V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4263.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/2/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	69	B
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	50	U
75-35-4	1,1-Dichloroethene	120	
75-34-3	1,1-Dichloroethane	62	
540-59-0	1,2-Dichloroethene (total)	200	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	530	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	180000	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	96	
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	240	
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

3/90

AR305364

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9429347V
E10-114

025

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429347V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4263.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/2/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
5.				
6.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

9429348V

EQ-113

026

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429348V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4276.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	39	J
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	50	U
75-35-4	1,1-Dichloroethene	180	
75-34-3	1,1-Dichloroethane	27	J
540-59-0	1,2-Dichloroethene (total)	140	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	940	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	200000	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	77	
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	260	
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

3/90

AR305366

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

027

9429348V

EW-113

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9429348V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4276.D

Level: (low/med) LOW

Date Received: 10/31/94

% Moisture: not dec. NA

Date Analyzed: 11/3/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

Concentration Units:

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

012

Lab Name: EMSL ANALYTICAL

Contract: _____

9428418V

EW-134

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428418V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4257.D

Level: (low/med) LOW

Date Received: 10/25/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
			Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene chloride	47	JB
67-64-1	Acetone	100	U
75-15-0	Carbon disulfide	23	J
75-35-4	1,1-Dichloroethene	50	
75-34-3	1,1-Dichloroethane	21	J
540-59-0	1,2-Dichloroethene (total)	53	
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	270	
56-23-5	Carbon tetrachloride	50	U
75-27-4	Bromodichloromethane	50	U
78-87-5	1,2-Dichloropropane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
79-01-6	Trichloroethene	1200	
124-48-1	Dibromochloromethane	50	U
79-00-5	1,1,2-Trichloroethane	50	U
71-43-2	Benzene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-88-3	Toluene	55	
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
100-42-5	Styrene	50	U
1330-20-7	Xylene (total)	50	U

FORM I VOA

3/90

AR305368

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9428418V

EU-134

013

Lab Name: EMSL ANALYTICAL

Contract: _____

Project No. _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water) WATER

Lab Sample ID: 9428418V

Sample wt/vol: 0.500 (g/mL) ML

Lab File ID: C4257.D

Level: (low/med) LOW

Date Received: 10/25/94

% Moisture: not dec. NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

Number TICs found: 0

(ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

011

Lab Name: EMSL ANALYTICAL

Contract: _____

9428419V

Ew-138

Project No.: _____

Site: _____

Location: _____

Group: _____

Matrix: (soil/water)

WATER

Lab Sample ID: 9428419V

Sample wt/vol:

0.500

(g/mL)

ML

Lab File ID: C4258.D

Level: (low/med)

LOW

Date Received: 10/25/94

% Moisture: not dec.

NA

Date Analyzed: 11/1/94

GC Column: DB-624 X 75M

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____

(uL)

Soil Aliquot Volume: _____

(uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	100		U
74-83-9	Bromomethane	100		U
75-01-4	Vinyl chloride	100		U
75-00-3	Chloroethane	100		U
75-09-2	Methylene chloride	50		B
67-64-1	Acetone	100		U
75-15-0	Carbon disulfide	50		U
75-35-4	1,1-Dichloroethene	150		
75-34-3	1,1-Dichloroethane	25		J
540-59-0	1,2-Dichloroethene (total)	56		
67-66-3	Chloroform	50		U
107-06-2	1,2-Dichloroethane	50		U
78-93-3	2-Butanone	100		U
71-55-6	1,1,1-Trichloroethane	580		
56-23-5	Carbon tetrachloride	50		U
75-27-4	Bromodichloromethane	50		U
78-87-5	1,2-Dichloropropane	50		U
10061-01-5	cis-1,3-Dichloropropene	50		U
79-01-6	Trichloroethene	2200		
124-48-1	Dibromochloromethane	50		U
79-00-5	1,1,2-Trichloroethane	50		U
71-43-2	Benzene	50		U
10061-02-6	trans-1,3-Dichloropropene	50		U
75-25-2	Bromoform	50		U
108-10-1	4-Methyl-2-pentanone	100		U
591-78-6	2-Hexanone	100		U
127-18-4	Tetrachloroethene	50		U
79-34-5	1,1,2,2-Tetrachloroethane	50		U
108-88-3	Toluene	60		
108-90-7	Chlorobenzene	50		U
100-41-4	Ethylbenzene	50		U
100-42-5	Styrene	50		U
1330-20-7	Xylene (total)	50		U

FORM I VOA

3/90

AR305370

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

9428419V
EW-13 B

015

Lab Name: EMSL ANALYTICAL Contract: _____
Project No. _____ Site: _____ Location: _____ Group: _____
Matrix: (soil/water) WATER Lab Sample ID: 9428419V
Sample wt/vol: 0.500 (g/mL) ML Lab File ID: C4258.D
Level: (low/med) LOW Date Received: 10/25/94
% Moisture: not dec. NA Date Analyzed: 11/1/94
GC Column: DB-624 X 75M ID: 0.53 (mm) Dilution Factor: 1.0
Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.	NONE FOUND			
2.				
3.				
4.				
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Office of Enforcement

CHAIN OF CUSTODY RECORD

REGION
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Philadelphia, Pennsylvania 19107

AR 305372

REGENT
841 Chesapeake Building
Philadelphia, Pennsylvania 19107

AR 305373

[illegible]

PROJ. NO.		PROJECT NAME		NO. OF CON. TAINERS		REMARKS	
1154		Boehd Farms NPCL					
SAMPLERS: (Signature)							
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION		
BW2A	10/28/94	1150			Extraction well 2 before	2	29345
BW2B	10/28/94	1448			Extraction well 2 after	2	29346
BW11A	10/28/94	0900			Extraction well 11 before	2	29347
BW11B	10/28/94	1100			Extraction well 11 after	2	29348
BW6A	10/28/94	0949			Extraction well 6 before	2	29349
BW6B	10/28/94	1105			Extraction well 6 after	2	29350
							AR305375
Relinquished by: (Signature)				Date / Time		Received by: (Signature)	
				10/28/94 1430		J. H. Miller	
Relinquished by: (Signature)				Date / Time		Received by: (Signature)	
Relinquished by: (Signature)				Date / Time		Received for Laboratory by: (Signature)	
				10/28/94 1555		H. Miller	
Relinquished by: (Signature)				Date / Time		Received by: (Signature)	
				10/28/94 1555			
Remarks							



5 Underwood Court, Delran, New Jersey 08075-1229
609-461-4003 • 215-238-0338 • Fax 609-461-4916

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-WO-0036

MEMORANDUM

TO: Dennis Matlock, OSC, EPA Region III
Eastern Response Section (3HW31) TDD# 9410-0154
PCS# 1154

THRU: Marian Murphy, TAT Region III MM

FROM: Elayne Lee, TAT Region III E.L.

SUBJECT: Boarhead Farms Site Analytical Review

DATE: November 15, 1994

This report covers the analytical review of 14 water samples collected at the Boarhead Farms Site on October 18, 1994 through October 28, 1994. The samples were received at EMSL in Westmont, NJ, on October 20, 25 and 28, 1994, for the analysis of volatile organic compounds. This report is based on a general review of the data provided.

ANALYTICAL METHODOLOGY

The samples were analyzed according to EPA Method 624 for the analysis of the volatile organic compounds. The QC requested consisted of matrix spike/matrix spike duplicates, method blanks, calibration data, surrogate spikes per sample, GC/MS tune data and internal standards data and raw data.

- The signed copies of the chain-of-custody records for the sampling event were returned.
- The samples were analyzed within the technical holding time.
- The method blank contained 5 ug/L of methylene chloride. Because sample numbers EW-10A, EW-10B, EW-9A, EW-9B, EW-13A, EW-2A, EW-11B, EW-6A, EW-6B contain methylene chloride at a lower concentration than ten times the concentration found in the blank, the concentration of methylene chloride in these samples should be considered not detected due to blank contamination.
- Surrogate spike percent recoveries were reported for all of the samples. The surrogate spike percent recoveries were within the acceptable ranges.

Roy F. Weston, Inc.

MAJOR PROGRAMS DIVISION

In Association with Foster Wheeler USA Corporation, Resource Applications, Inc., C.C. Johnson & Malhotra, P.C., R.E. Sarriera Associates, and GRB Environmental Services, Inc.

AR305376

- The matrix spike/matrix spike duplicate percent recoveries and the relative percent difference values were acceptable.
- The GC/MS tune data and the internal standards data were acceptable.
- In the initial calibration summary, the value reported for acetone was outside the acceptable limit. Because acetone was not detected in any of the samples, no data was qualified. The rest of the calibration data was acceptable.

CONCLUSION

Accept the data as presented with the following exceptions: The quantities reported for methylene chloride in sample numbers EW-10A, EW-10B, EW-9A, EW-9B, EW-13A, EW-2A, EW-11B, EW-6A and EW-6B should be considered not detected, due to blank contamination.